

MAZEL'EV, L. YA.

USSR .

✓ The system $B_2O_3 - MgO - Li_2O$ in the glassy state. L. Ya. Mazel'ev. *Appl. Chem. U.S.S.R.*, 25, 255-64 (1953) (Engl. translation).—See C.A. 48, 3777d. H. L. H.

MAZEL'EV

MACHELEV, L.Ya.

Chemical Abst.
Vol. 48
Apr. 10, 1954
General and Physical Chemistry

2
The system B₂O₃-MgO-Li₂O in a glassy state. L. Ya. Machelev. *Zhurn. Priklad. Khim.* 26, 286-97(1953).—The system was studied in a search for usable x-ray-transparent glasses. The ingredients were added as H₃BO₃, MgCO₃, and Li₂CO₃ in quantities MgO 1-25%, Li₂O 2.5-15%, B₂O₃ 96-80%. All glasses with MgO > 10% recrystallized immediately, also glasses with Li₂O 2.5%. Glasses with MgO < 3% and Li₂O < 5% had a tendency to recrystallize. A diagram of the ternary system was established that shows the areas corresponding to the location of transparent glasses. The fusion took place at 1000°. Density (1.91-2.38) and n (1.49-1.66) increase with MgO content, but show anomalies attributed to the formation of compounds, such as MgO·B₂O₃, 2MgO·B₂O₃, and 3MgO·B₂O₃. To det. soly. samples were boiled for 1 hr. and 5 hrs. in H₂O, and the wt. loss was detd. The resistance against H₂O increases with increasing MgO content. X-ray absorption was calcd. Optimum compns. are recommended.
S. Paksver

AF
9-27-54

Mazzeley, L. Ya.

Chemical durability of glasses of peat slugs. M. A.

Bezbrodov and L. Ya. Mazzeley. Doklady Akad. Nauk S.S.S.R. 99, 531-4 (1963). Glasses (130 batches), contg. 85-100% peat slug from gas-producer wastes of a glass plant, were prepd. with addn. of quartz sand, chalk, Na₂CO₃, etc. The durability of the resulting glasses to distd. H₂O, NaOH, and Na₂CO₃ solus. was satisfactory, but many of the glasses were decompd. by HCl and H₂SO₄, with considerable changes in their phys. properties (d., color, light transmittance, adsorption capacity, etc.). A typical peat slug contained SiO₂ 30.22, TiO₂ 0.37, Al₂O₃ 23.82, Fe₂O₃ 0.21, CaO 11.95, K₂O 0.18, Na₂O 9.95, Mn₂O₃ 3.27

HCl; the d. was reduced greatly by the acid treatment; even after reheating to 1000° the original d. and s values were not restored. The adsorption capacity for dyes was tremendously increased in the HCl-treated glass powders; much Al₂O₃, CaO, and MgO was leached out by the acid, particularly R₂O and Fe₂O₃, which were nearly completely removed and the sulfides which were decompd. The residual glass was nearly pure SiO₂-hydrogel. The instability of "basic" peat glasses is explained by their constitution which is different from that of siliceous common glasses. Cole's investigations on the magnetic susceptibility of decompd. glasses of slugs from peat glasses have shown

0.70%); they were colored deep brown. With HCl, H₂S
gas was evolved and FeCl₃ was found in the solid. The ad-
sorption capacity of the glasses for methylene blue solids
was detd. in the original state and after treatment with

MAZELEV, L Ya.

D-8

USSR/Statistical Physics - Liquids

Abs Jour : Referat Zhur - Fizika. No 5, 1957, 11530

Author : Mazelev, L.Ya.

Inst :

Title : Study of Crystallization of Borate Glass.

Orig Pub : Sr. nauchn. rabot. Belorus. poletekhn. in-t, 1956, No 5,
19-26, 27-35

Abstract : An investigation is made of the crystallization of glass in a system B_2O_3 -- MgO -- Li_2O . All glass which contain more than 15% MgO became crystallized. The tendency to crystallization has been exhibited also by glass with a lesser content of MgO -- low borate, low-alkali (2.5% Li_2O). The MgO (unlike the BeO) probably does not participate in the organization of the structural lattice and has a tendency, within certain limits of "giving up" the oxygen to the boron (like Li_2O) and to change its coordination. It is shown that on the surface of a cooled

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USSR/Statistical Physics - Liquids

D-8

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11530

melt there takes place crystallization of a compound of
the type 2MgO , B_2O_3 , and also of free boric acid.

Card 2/2

MAZELEV, L.Ya.

Category : USSR/Atomic and Molecular Physics - Liquids

E-8

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6438

Author : Mazelev, L.Ya.

Title : Study of the Crystallization of Borate Glass

Orig Pub : Sb. nauch. rabot. Belorus. politekhn. in-ta, 1956, vyp.
55, 36-45

Abstract : An investigation was made of the crystallization processes of the type B_2O_3 -- BeO -- MgO -- Li_2O , and also with additions up to 10% of Al_2O_3 and SiO_2 above the basic composition. It is confirmed that the behavior of MgO differs from that of BeO .

Card : 1/1

5(1)

PHASE I BOOK EXPLOITATION

SOV/1396

Mazelev, L.Ya.

Boratnyye stekla; termokhimicheskiye protsessy pri stekloobrazovanii, kristallooptika, tekhnologiya, fiziko-khimicheskiye svoystva i struktura stekol sostava $B_2O_3-Li_2O-MeO$ (Borate Glass; Thermochemical Processes in the Production of Glass, Crystallooptics, Technology, Physical and Chemical Properties and the Structure of Glass of the Composition $B_2O_3-Li_2O-MeO$) Minsk, Izd-vo AN BSSR, 1958. 171 p. 1,800 copies printed.

Ed.: Petrov, L.K., Candidate of Technical Sciences; Ed. of Publishing House: Mariks, L.; Tech. Ed.: Volokhanovich, I.

PURPOSE: This book is intended for specialists working in the field of glass technology.

COVERAGE: The present volume discusses problems connected with the manufacture of borate-type glass in the wide range of systems characterized by the general formula: $B_2O_3 - Li_2O - MeO$ where M = Be, Mg, Ca, Zn, Sr, Cd, Ba, Pb, Mg, and Be. A systematic study is

Card 1/3

Borate Glass (Cont.)

SOV/1396

Vitrification Diagrams of the System B_2O_3 - Li_2O - MeO (BeO , MgO , CaO , ZnO , SrO , CdO , BaO , and PbO); Technology of Melting and Production of Glass of the Given System 11

Thermochemical Processes and Reactions in Glass Formation 22

Crystallization of Borate Glass and the Composition of Crystallization Products 53

Physicochemical Properties of Borate Glasses 74

Effect of the Addition of SiO_2 , Al_2O_3 , or ZrO_2 to Borate Glasses on Their Vitrification and Physicochemical Properties 109

Calculation of Borate-glass Properties 111

Conclusion 128

Supplement 167

Bibliography

AVAILABLE: Library of Congress

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68926

SOV/81-60-1-1964

18.7400

Translation from: Referativnyy zhurnal. Khimiya, 1960, Nr 1, p 307 (USSR)

AUTHORS: Mazeiev, L.Ya., Babiner, B.N., Ivashko, L.I.

TITLE: The Synthesis of the Composition of Primer Enamels with a Lowered Content of Boron Oxide

PERIODICAL: Byul. tekhn.-ekon. inform. Sovnarkhoz BSSR, 1958, Nr 2 - 3, pp 72 - 76

ABSTRACT: In the boron primer Nr 215 of the following composition (in weight %): SiO₂ 44.8, Al₂O₃ 8.3, B₂O₃ 18.0, Na₂O 21.4, CaF₂ 6.2, NiO 0.7, CaO 0.6 the substitution of B₂O₃ by BaO was carried out at 3 weight % intervals. BaO was introduced in the form of BaSO₄, at the same time 2 moles of carbon per 1 mole of BaSO₄ was added as reducing agent. The melting was carried out under reducing conditions at 1,250 - 1,270°C, the primers obtained were ground with the boron-free primer Nr 27 in the ratio Nr 215 : Nr 27 = 40 : 60, with additions of 5% clay, 0.2% NaNO₂, 1% MgCO₃ and 5% quartz sand. In the tests the primers, in which up to 12% of B₂O₃

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SOV/81-60-1-1964

The Synthesis of the Composition of Primer Enamels With a Lowered Content of Boron Oxide

were substituted by BaO, showed a satisfactory coating quality, a good adhesion to the metal, and a sufficient mechanical resistance. The burning temperature was 850°C. In the case of applying titanium white enamel on these primers no defects were observed.

M. Serebryakova

Card 2/2

MAZELEV, L.Ya.; ZHUMINA, L.A.; YERMOLENKO, N.N.

"A guide to the technology of glass" by N.M. Pavlushkin, G.G.
Sentiurin. Reviewed by L. IA. Mazelev, L.A. Zhumina, Ermolenko.
Stek. 1 ker. 15 no.12:43-44 D '58. (MIRA 11:12)
(Glass manufacture)

MAZELEV, L.Ya.

Effect of SiO_2 , Al_2O_3 , ZrO_2 , and TiO_2 impurities in borate glasses with the composition B_2O_3 - Li_2O - ZnO (SrO , CdO) on the glass-forming process. Sbor.nauch.rab.Bel.politekh.inst. no.63: 105-113 '58. (MIRA 12:4)

(Glass)

15 2230

29429

S/00./61/000/017/082/166
B101/B102

AUTHOR: Mazelev, L. Ya.

TITLE: Investigation of the thermochemistry and technology of
vitrification of alkali-free borate systems with the
composition B_2O_3 - PbO - MeO

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 343, abstract
17K 273 (Sb. nauchn. rabot. N.-i. in-t stroit. materialov.
BSSR, no. 8, 1959, 189-221)

TEXT: Results of an investigation of the thermochemical and thermophysical
processes taking place in the vitrification of alkali-free borate systems
with the composition B_2O_3 - Pt - MeO (BeO, MgO, CaO, ZnO, SrO, CdO, BaO,
and Mn_2O_3) are compared with analogous results obtained for the previously
investigated systems B_2O_3 - Li_2O - MeO (RZhKhim, no. 11, 1959, 39437). The
thermochemical processes taking place when the mixture of the components
is heated up to vitrification are listed. The most important endothermic
effects and the dissociation temperatures of the mixtures of the components X
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SV/9578

TABLE I BOOK EXPLANATION

Minsk. Beloruskiy politehnicheskii institut

Beloruskiy politehnicheskii institut
Minsk, beloruskiy i istoriya stekla i keramiki (The Chemistry, Technology, and History of Glass and Ceramics) Minsk, Ned.-izd. etdol' Bel'inskii I. V. Steklo, 1960. 138 p. (Series: Izt. Sbornik nauchnykh trudov, vyp. 66) 1,200 copies printed.

Sponsoring Agency: Ministerstvo Vyzhego, srednego spetsial'nogo i professional'nogo obrazovaniya BSSR; Beloruskiy politehnicheskii institut Izm. I. V. Steklo.

Editorial Board: E. E. Yermolovich, Candidate of Technical Sciences, I. S. Kochan, and L. E. Petrov; Ed.: E. V. Lyapunova; Tech. Ed.: G. A. Puzina.

POISSON: This book is intended for chemists and physicists interested in the composition, structure, and properties of glass and ceramics.

Card 1/6

The Chemistry, Technology, and History (Cont.)

SV/9578

COVERAGE: The articles contained in this collection deal with methods of studying the properties of various glass and ceramic compositions and the technology of glass and ceramic manufacture. The last two articles treat the history of silicate chemistry. No personalities are mentioned. References follow the articles.

TABLE OF CONTENTS:

THE PHYSICAL CHEMISTRY OF SILICATES

- Zhukovskii, L. A. [Candidate of Technical Sciences (Minsk)]. Physicochemical Processes in Glass Formation 3
- Shumilina, A. M. [Candidate of Technical Sciences (Dnepropetrovsk), (Minsk)]. Study of the Interaction of Sodium Chloride with the Oxide and Sulfate of Ferric Oxide During Sintering 12
- Shuryu, V. E. [Candidate of Technical Sciences], and V. V. Titovitch [Minsk]. The Mineralogical Composition of Refractory Clays From the "Gorodok" Site 16

The Chemistry, Technology, and History (Cont.)

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- Ushakov, V. A. [Candidate of Technical Sciences (Sverdlovsk)]. Study of Glasses in the System $Li_2O - Al_2O_3 - P_2O_5 - SiO_2$ 61
- Mal'chukh, E. I. [Candidate of Technical Sciences (Minsk)]. Study of Glass Formation and Some Physicochemical Properties of Glasses of the Composition $Na_2O - SiO_2 - CaO - SiO_2$ 65
- Musilev, L. Ya. [Candidate of Technical Sciences (Minsk)]. Study of Solvents of the Oxide Additives SiO_2, Al_2O_3 and Fe_2O_3 on the Vitrification and Physicochemical Properties of Borate Glass 71
- Agonov, M. V. [Master of Engineering (Urumchi)]. Multicolored Mosaic Encrustation of Glass of the "Marbles" or "Mullifiori" Type [Translated from the Polish by O. Poznyak] 80
- Yermolovich, E. E. [Candidate of Technical Sciences (Minsk)]. Study of the Propagation of Ultrasonic Vibrations in Glasses 86

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PHASE I BOOK EXPLOITATION

SOV/4136

Minsk. Belorusskiy politekhnicheskiy institut

Khimiya i khimicheskaya tekhnologiya silikatnykh materialov (Chemistry and the Chemical Technology of Silicate Materials) Minsk, Red-izd. otdel BPI imeni I. V. Stalina, 1960. 165 p. (Series; Its: Sbornik nauchnykh trudov, vyp. 82) 1,000 copies printed.

Editorial Board: M. A. Bezborodov (Resp. Ed.) Academician, Academy of Sciences BSSR, L. A. Zhunina, Candidate of Technical Sciences, N. N. Yermolenko, Candidate of of Technical Sciences, P. F. Mikhalevich, Candidate of Technical Sciences; Resp. Ed. for this issue: L. A. Zhunina; Ed.: N. V. Kapranova; Tech. Ed.: P. T. Kuz'menok.

PURPOSE: This book is intended for chemists and technicians interested in the physicochemical properties and the production of glass.

COVERAGE: The collection contains 20 articles which give data on the synthesis and physicochemical properties of various widely used and some experimental glass compositions. Numerous property and phase diagrams of glass compositions are given. The apparent need to conserve boron, evidenced by the third article,

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Chemistry and the Chemical Technology of Silicate (Cont.)

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may be noteworthy. No personalities are mentioned. References accompany some articles.

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1. Bezborodov, M.A., Academician, Academy of Sciences BSSR, and A.M. Kripskiy, Engineer. Methods of Studying the Crystal Structure of Glass 3
2. Bezborodov, M.A., Academician, Academy of Sciences BSSR, and N. N. Yermolenko, Candidate of Technical Sciences. Synthesis and Structure of Glass in the System $\text{CaO-PbO-Al}_2\text{O}_3$ 16
3. Bezborodov, M.A., and L.Ya. Mazelev, Candidate of Technical Sciences. Development of Nonboron Glass Compositions for Water- and Petroleum-Gage Pipes and Their Testing 24
4. Bezborodov, M.A., N.N. Yermolenko and L.A. Zhunina, Candidates of Technical Sciences, and Ye. Z. Novikova, Engineer. Light Refractivity and Crystallization Capacity of Glasses Found in Some Sections of the System $\text{Na}_2\text{O-CaO-BaO-ZrO}_2\text{-SiO}_2$ 29

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5. Bezborodov, M.A., and N.N. Yermolenko. Glass for Penicillin Vials 34
6. Mazelev, L.Ya., Physicochemical Properties of Glass of the Composition $B_2O_3-Li_2O-B_2O_3-MgO$ Depending Upon Composition and Structure 38
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9. Zhunina, L.A., A.M. Kripskiy, and Ye.Z. Novikova. Experiment in Producing a Glass Crystal Material From Easily Melting Belorussian Clays 79
10. Sharay, V.N., Candidate of Technical Sciences. Study of Crystallization in Glasses Produced From Easily Melting Clays 86

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MAZELEV L.Ya

PAGE 1 FROM PHOTOGRAPHIC COPY/50%

Vsesoyuznoye sovetskoye nauchnoye izdatel'stvo khimicheskoy literatury, Moskva, Leningrad, 1959.

Stekloobrazniye sostoyaniya, triydy tret'yego vsesoyuznogo sovet'skoyanaya leningrad, 16-20 noyabrya 1959 (Vitroous State; Transactions of the Third All-Union Conference on the Vitroous State, Held in Leningrad on November 16-20, 1959) Moscow, Izd-vo AN SSSR, 1950. 525 p. Errata slip inserted. 5,200 copies printed. (Series: IZh: Trudy)

Sponsoring Agencies: Institut khimii silikatov Akademii nauk SSSR, Vsesoyuznoye khimicheskoye izdatel'stvo imeni D.I. Mendeleeva and Gosudarstvennyy ordena Lenina opticheskoy Institut Ireni S.I. Vavilova.

Editorial Board: A.I. Avgustinik, V.P. Barzakovskiy, M.A. Pezborodov, O.K. Novitskiy, I.V. Vargin, A.G. Vlasov, K.S. Yevstrop'yev, M.A. Lebedev, M.A. Macveyev, V.B. Molchanov, R.L. Myuller, Ye.A. Furvy-Zobits, Chairman, K.A. Toropov, V.A. Florinskaya, A.K. Yakhkind; Ed. of Publishing House: I.V. Suvorov; Tech. Ed.: V.T. Rochever.

PURPOSE: This book is intended for researchers in the science and technology of glasses.

COVERAGE: The book contains the reports and discussions of the Third All-Union Conference on the Vitroous State, held in Leningrad on November 16-19, 1959. They deal with the methods and results of studying the structure of glasses, the relation between the structure and properties of glasses, the nature of the chemical bond and glass structure, and the crystallochemistry of glasses. Fused silicon, mechanics of vitrification, optical properties and glass structure, and the electrical properties of glasses, are also discussed. A number of the reports deal with the dependence of glass properties on composition, the tinting of glasses and radiation effects, and mechanical, technical, and chemical properties of glasses. Other papers treat glass semiconductors and soda borosilicate glasses. The Conference was attended by more than 300 delegates from Soviet and East German scientific organizations. Among the participants in the discussions were N.V. Bolotin, Ye. V. Kurezhinskiy, Yu.A. Gusev, V.P. Pryanishnikov, Yu. Ya. Gollib, O.P. Menedlov-Petrov, G.P. Mikheylov, S.M. Petrov, A.N. Isakarev, D.I. Levin, A.V. Shatilov, R.T. Plombichinskiy, A.F. Kuznetsov, E.V. Degtyareva, G.I. Brygunovskiy, A.A. Malenok, M.K. Smirnov, P. Ya. Robin, E.K. Keller, Ye.A. Kuznetsov, V.P. Pozdnev, R.S. Sherelevich, Z.G. Finaker, and G.I. Molchanov. The final session of the Conference was addressed by Professor I.I. Litvovskiy, Honored Scientist and Engineer, Doctor of Technical Sciences. The following Institutes were cited for their contribution to the development of glass science and technology: Gosudarstvennyy opticheskoy Institut (State Optical Institute), Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), Fizicheskoy Institut AN SSSR (Physics Institute AS USSR), Fiziko-tekhnicheskoy Institut AN SSSR (Physicochemical Institute AS USSR), Institut fiziki AN SSSR, Minsk (Institute of Physics, Academy of Sciences, Belorusskaya SSR, Minsk), Laboratory of Physical Chemistry of Silicates of the Institut obshchey i neorganicheskoy khimii AN SSSR, Minsk (Institute of General and Inorganic Chemistry, Academy of Sciences, Belorusskaya SSR, Minsk), Institut yvromolekulyarnykh soedyneniy AN SSSR (Institute of High Molecular Compounds, AS USSR), Gosudarstvennyy Institut stein (State Institute for Glass Fibers), Gosudarstvennyy Institut elektrokhemicheskoye (State Institute for Electrical Glass), Sibirskiy fiziko-khimiicheskoy Institut, Tomsk (Siberian Physicochemical Institute, Tomsk), Leningrad, Sverdlovskiy Institut, Tomsk (Sverdlovsk State University), Mestovskiy khimicheskoye tekhnologicheskoy Institut (Academy Institute of Chemical Technology), Leningradskiy tekhnologicheskoy Institut (Leningrad Technical Institute), Institut khimii i fiziki (Institute of Chemistry and Physics), Belorusskoye politekhnicheskoy Institut (Belorussian Polytechnic Institute), and Sverdlovskiy politekhnicheskoy Institut (Sverdlovsk Polytechnic Institute). The Conference was sponsored by the Institute of Silicate Chemistry AS USSR (Acting Director - A.S. Gollib), the Vsesoyuznoye khimicheskoye izdatel'stvo imeni D.I. Mendeleeva (All-Union Chemical Society Institute Ireni Mendeleeva), and the Gosudarstvennyy ordena Lenina opticheskoy Institut Ireni S.I. Vavilova (State Order of Lenin Optical Institute Ireni S.I. Vavilov). The 15 research papers of the Conference have been selected to appear in a condensed form under the title "Izvestiya khimicheskoy literatury" and published by the Central Publishing House of Chemical Literature, Moscow, USSR. The Conference took place in the city of Leningrad. The members of the Organizational Committee of the Conference were: Ye.A. Furvy-Zobits, Professor, and Chairman of the Organizational Committee, Member of the Order of Lenin, and P. Ya. Robin, Doctor of Technical Sciences, Member of the Order of Lenin. The editors of the book are: Ireni S.I. Vavilova, V.A. Isakarev, and B.T. Kolyanitskiy. References accompany individual chapters.

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Card 20/22

15 2920

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S/081/61/000/019/046/085
B110/B101

AUTHOR: Mazelev, L. Ya.

TITLE: Glass formation and properties of borate glasses

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 308, abstract 19K250 (Sb. "Steklocbrazn. sostoyaniye". M.-L., AN SSSR, 1960, 437-441. Diskus., 446)

TEXT: Structure and properties of borate glasses (and their anomalies) are determined by the following characteristics: quantitative content and ratio of the oxides $m\text{Li}_2\text{O} + \text{MeO} : \text{B}_2\text{O}_3$ in the glass; extent to which B_2O_3 is bound as borates; B_2O_3 quantity not bound in form of borates; total content of O_2 related to B (O:B) and related to the cations ($\text{O}:\text{Li}^+ + \text{Me}^{2+}$); thermochemical past of the glass; coordination state of B in the glass; $\text{BO}_3:\text{BO}_4$ ratio; homogeneity degree (submicroheterogeneity) as a function of the structure fixed on cooling of the melt. In glasses of the composition

Card 1/2

Glass formation and properties...

8/081/61/006/019/046/085
B110/B101

$B_2O_3 - Li_2O - MeO, B_2O_3$ is the decisive component determining their vitrification, structure, and properties. [Abstracter's note: Complete translation.] X

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S/081/60/000/024/007/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 24, p. 349, # 97363

AUTHORS: Bezborodov, M.A., Mazelev, I.Ya.

TITLE: The Development of a Prescription for Boronfree Glasses for Water- and Petroleum Gage Tubings and Their Test

PERIODICAL: Sb.nauchn.tr. Belorussk.politekhn. in-t, 1960, No.82, pp. 24-28

TEXT: The plant "Druzhnaya Gorka" organized, on the basis of results from technological and physicochemical tests of experimental glasses, the production of water- and petroleum gage tubings of boronfree glass IV of the following composition (in % of weight) SiO₂ 71.00, Al₂O₃ 5.00, BaO 2.00, CaO 7.00, MgO 4.00, Na₂O 11.0. The glasses I, II, III and IV (the compositions are given in a table) are recommended for the mechanized manufacture of glass-containers with raised thermal and chemical stability and mechanical strength, of chemical-laboratory neutral glass, and some scrts of electrotechnical and electric insulation glass. ✓

I. Mikhaylova

Translator's note: This is the full translation of the original Russian abstract.
Card 1/1

24447

S/081/61/000/006/011/015
B101/B201

15 2670

AUTHOR: Mazelev, L. Ya.

TITLE: Physicochemical properties of glasses of a
 $B_2O_3 - Li_2O - BeO - MgO$ composition as dependent upon
composition and structure

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1961, 374-375,
abstract 6K297 (6K297) ("Sb. nauch. tr. Belorussk.
politekhn. in-t.", 1960, vyp. 82, 38-53)

TEXT: For the $B_2O_3 - Li_2O - BeO - MgO$ system, the ranges of vitrification
and crystallization have been determined along with the thermochemical
reactions in the processes of vitrification, the physical and physico-
chemical properties, as well as the conditions of crystallization of
glasses, the mineralogy and crystal optics of crystallization products.
Conclusions drawn for ternary borate systems (RZhKhim, 1959, no. 11,
39437) regarding the structure range of borate glasses, the rules govern-
ing the modification of their properties, and the characteristics of their
Card 1/2

24447

Physicochemical properties of glasses...

S/081/61/000/006/011/015
B101/B201

vitreous state all apply to the above-mentioned system as well. The structure of borate glasses basically depends upon kind and quantitative ratio of the oxides contained in the glass ($mLi_2O + nMeO$) : B_2O_3 , the composition of resulting borates and binding degree of B_2O_3 to borates, the total content of O_2 in a ratio to B and sum of cations. The discussion comprises the physical, physicochemical, and mechanical properties of glasses, the character of their modification up to vitrification temperature, the state of coordination of B in the glass, the modification of the $BO_3 : BO_4$ ratio, homogeneity and heterogeneity of the structure.

[Abstracter's note: Complete translation.]

Card 2/2

S/081/60/000/023/006/021
A005/A001

15.2120

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 23, p. 331, # 93117

AUTHORS: Mazelev, L.Ya., Zelenskiy, A.I.

TITLE: The Synthesis and Investigation of the Physico-Chemical Properties of High-Aluminous Low-Alkali Glasses

PERIODICAL: Sb. nauchn. tr. Belorussk. politekhn. in-t, 1960, No. 82, pp. 54-63

TEXT: Some compositions of high-aluminous glasses, their vitrification and properties were investigated. As initial mixtures eutectic mixtures of the following compositions were taken: $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-MgO}$, $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-CaO}$, $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-CaO-MgO}$, $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-MnO}$. A comparative effect was stated of definite quantities of flux-oxide additions: Na_2O , Li_2O , BaO , B_2O_3 , and CaF_2 , on the vitrification process, the crystallization tendency, and the properties. 90 glass compositions were synthesized. The scientific generalization of the investigation results is presented for all glass compositions and their properties (Summary table of the compositions, vitrification, physical and physicochemical properties of the studied

Card 1/2

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A005/A001

JC

The Synthesis and Investigation of the Physicochemical Properties of High-Aluminous Low-Alkali Glasses

glasses). As a result of the plant investigations, the possibility is stated to derive synthetic glass compositions (boiling temperature 1,400 - 1,450°C) of various designations (chemical-laboratory, packaging, piping, electrovacuum, electric insulation specially crystallizing with micro- and macro-crystals, with increased microhardness).

From the summary of the authors

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/081/62/000/001/040/067
B168/B101

N. Voo
AUTHOR:

Mazelev, L. Ya.

TITLE:

A study of the influence of admixtures of the oxides SiO_2 , Al_2O_3 and ZrO_2 to borate glasses on their glass-forming and physicochemical properties

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 1, 1962, 353, abstract 1K219 (Sb. nauchn. tr. Belorussk. politekhn. in-t, no. 86, 1960, 71-79)

TEXT: 220 glasses of B_2O_3 - Li_2O - BeO - MgO composition with admixtures of 1-70 parts by weight SiO_2 and Al_2O_3 and up to 50 parts by weight ZrO_2 were compared. Founding temperature 950-1350°C. An admixture of up to 50 parts by weight Al_2O_3 gives transparent glasses without increasing their tendency to crystallize. An admixture of the same quantities of SiO_2 gives transparent glasses when their alkali content

Card 1/2

A study of the influence of...

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exceeds 5 %. An admixture of ZrO_2 in all cases causes opaqueness of the glass. A comparative study of the physicochemical and physical properties of glasses with and without the admixtures was carried out. The possibility of adding up to 50 parts by weight SiO_2 , Al_2O_3 and ZrO_2 to borate glasses considerably widens the range of their uses in industry. [Abstracter's note: Complete translation.]

X

Card 2/2

BEZBORODOV, M.A., akademik, prof., doktor tekhn.nauk; MAZELEV, L.Ya., dotsent,
kand.tekhn.nauk; ZHUNINA, L.A., dotsent, kand.tekhn.nauk

Research work on the chemistry and technology of silicates in 1936-
1956. Sbor.nauch.trud. Bel.politekh.inst. no.66:91-116 '57.
(MIRA 16:9)

1. Akademiya nauk Belorusskoy SSR (for Bezborodov).

MAZELEV, L. Ya.; MANCHENKO, Z. F.

"Investigation of consistent pattered of variation of some glasses of $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-CaO-B}_2\text{O}_3\text{-(R}_2\text{O)}$ system with the aim of using detolite."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad, 16-21 Mar 64.

MINKOVSKIY, D.I., kand.tekhn.nauk, dotsent; ZAVISTOVICH, I.I., inzh.; MAZELEVA,
M.L., inzh.

Compensated loss counters. Izv. vys. ucheb. zav.; energ. 6 no.12:105-
109 D '63. (MIRA 17:1)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy teo-
reticheskikh osnov elektrotekhniki.

MAZELIS, B.

Preparing construction estimates and costs.

P. 14 (TECHNIKA I ZODIS) Lithuania No. 3 June/July 1957.

SO: Monthly Index of East European Acquisitions (AEEI) Vol. 6, No. 11, November 1957.

ALEKSEYEV, V.S.; BILYUGA, T.G.; TALDYKIN, O.Ye.; OLEKSANDRUK, A.M.;
TIMOSHENKO, A.G.; MALUKHA, N.N.; MINKO, A.F.; SHABEL'NYUK, V.S.;
GIRENKO, P.P.; MAZENKO, V.V.

Amount of alkaloids of the l-methylpyrrolizidone series in the
groundsel *Senecio borysthenticus* Andz. during different vegetation
periods and the effect of mowing upon the alkaloid content of
the aftergrowth. Nauch. dokl. vys. shkoly; biol. nauki no.2:
152-154 '62. (MIRA 15:5)

1. Rekomendovana kafedroy farmatsevticheskoy khimii Dnepropetrovskogo
meditsinskogo instituta.

(SENECIO)

(PYRROLIZINE)

MAZENKOVA, L.I.

Catamnesis of children following acute diffuse glomerulonephritis. *Pedia-*
tria no.2:64 Mr-Apr '53. (MLRA 6:5)

1. Kafedra detskikh bolezney Yaroslavskogo meditsinskogo instituta.
(Kidney--Diseases)

MAZENOVA, G.F.

Studying vertical migration of *Diacyclops thomasi* Mill. in Lake Baikal.
Izv.vost.fil.AN SSSR no.419 (1964) (MLHA 10:9)

1. Vostochno-Sibirskiy filial Akademi Nauk SSSR.
(Baikal, Lake Baikal)

И. И. ЯВПСЕВ, И. В. [unclear]

Review of symposium of the Prague Scientific Research Institute
of Materials and Technology. Metalloved. i term. obr. met. no. 8:
60-64. Ag '65. (MIRA 18-9)

14(5)

SOV/92-59-3-42/44

AUTHORS: Golikov, A.D., Master-driller, and Mazepa, B.A.,
Senior Engineer

TITLE: Useful Textbook (Poleznoye posobiye)

PERIODICAL: Neftyanik, 1959, Nr 3, p 35 (USSR)

ABSTRACT: The authors state that among numerous books and pamphlets recently published by the Gostoptekhizdat, the textbook entitled "General Overhauling of Oil and Gas Wells" is worth serious attention. In his work the author presents material of considerable importance and interest for personnel specializing in the overhaul of subterranean well equipment. A chapter of this book is devoted to a description of photographic, acoustic and electrical methods which make possible a comprehensive study of oil wells. These methods have never been discussed in Soviet domestic literature. In another chapter the author reviews existing systems of packers manufactured in the Soviet Union and in foreign

Card 1/2

Useful Textbook

SOV/92-59-3-42/44

countries. This will help engineers to select the most suitable packer. Fishing tools and operations are also dealt with in detail. This valuable book has, however, certain shortcomings. Instead of presenting designs of equipment, the author provides only sketches. Certain operations such as the exclusion of bottom waters are not as fully described as they might be. Nevertheless, there is no doubt that this useful book will be read with considerable interest by oilmen.

ASSOCIATION: NPU Bugul'manef't' (The Bugul'manef't' Petroleum Production Administration)

Card 2/2

PHASE I BOOK EXPLOITATION SOV/3884

Mazepa, Boris Alekseyevich

Opyt avtomatizatsii dobychi nefti (Results of Efforts to Automate Petroleum Production) Moscow, Gostoptekhizdat, 1960. 87 p.
Series: Obmen peredovym tekhnicheskim opytom) 2,500 copies printed.

Exec. Ed.: Ye.I. Latukhina; Tech. Ed.: A.V. Trofimov.

PURPOSE: This book is intended for engineers and technical personnel engaged in oil field operations. It will also be of interest to specialists in automation and instrumentation.

COVERAGE: The book provides information on the present state of automation, mechanization, and remote control of petroleum and gas production operations in Soviet oil fields. Various automatically controlled equipment, including drill pipe deparaffinization units, are described and illustrated. Electrical winches, packers, and the more recently developed flying scraper, are also described and their use explained. Automatically controlled pumping processes as well as the control systems of the liquid level in tanks, traps,

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Results of Efforts (Cont.)

SOV/3884

and cooling installations are discussed as are blow-up preventors, cut-offs, and starters of intermittently operating pumping jacks. Centralized control and remote control of deep pumping wells and of other well field operations exercised either by means of wire lines or radio is described. Telemechanization of different type compressor stations is explained. No personalities are mentioned. There are 7 references: 6 Soviet and 1 English.

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Card ~~2/5~~

MAZEPA, B.A., starshiy inzhener

Methods for dewaxing wells. Neftianik 5 no.9:9-11 S '60.
(MIRA 13:9)

1. Laboratoriya dobychi nefi Tatarskogo nauchno-issledovatel'-
skogo neftyanogo instituta.
(Paraffins)

MAZEPA, Boris Alekseyevich; KAYESHKOVA, S.M., ved. red.

[Controlling paraffin deposition in petroleum production
abroad] Bor'ba s parafinovymi otlozheniyami pri dobyche
nefti za rubezhom. Moskva Gostoptekhizdat, 1961. 80 s.
(MIRA 17:1)

MAZEPA, Boris Alekseyevich; MAKLAKOVA, L., ved. red.; VORONOVA, V.V.,
tekhn. red.

[Improving oil- and gas-gathering systems] Sovershenstvovanie
sistem neftegazosbora na promyslakh. Moskva, Gostoptekhzdat,
1963. 126 p. (MIRA 16:5)

(Petroleum--Transportation)
(Gas, Natural--Transportation)

MAZEPA, B.A.; VOLKOV, L.F.

Nature and special features of paraffin deposition in gathering systems of simultaneous oil and gas transportation; based on work experience in experimental sectors of the Tatar fields. Nefteprom. delo no.7:17-20 '63. (MIRA 17:2)

1. Tatarskiy neftyanyy nauchno-issledovatel'skiy institut.

MAZEPA, I.I.; FRANTSEVICH, L.I.

Characteristics of the late autumn flight of night insects. Vop.
ekol. 7:103-104 '62. (MIRA 16:5)

1. Kiyevskiy gosudarstvennyy universitet.
(Kanev Preserve--Insect traps)

MAZEPA, I.I.; FRANTSEVICH, L.I. [Frantsevych, L.I.]

Mass flight of insects in the late fall of 1960. Visnyk. Kyiv.
un. no. 4: Ser. Biol. no. 2: 93-95 '61. (MIRA 16:6)
(KANEV PRESERVE—MOTHS)

1. MAZEPA, N. A.
2. USSR (600)
4. Farm Engines
7. Using a steam engine for mechanization of labor in stock raising.
Dost. sel'khoz. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified

DENIS, B.D.; MAZEPA, S.S.; NAKONECHNYI, V.I.

Remote control system of flowing and beam wells in Carpathian
Mountain Region oil wells. Neft. i gaz. prom. no.3:45-47
Jl-S '64. (MIRA 17:12)

Country : USSR
Category : CULTIVATED PLANTS. GRAINS
Abs. Jour. : DOKL. ZHUR. BIOL., 21, 1958, NO. 95051
Author : Mazepin, K.G.
Instit. : Voronezh Agric. Inst.
Title : The Effect of Bacterial Fertilizers on the Corn Yield
Orig. Jour. : Zap. Voronezhsk. s.-kh. in-ta, 1957, 27, No. 2, 373-377
Abstract : No abstract

M

Card: 1-1

MAZEPIN, K.G., Cand Agr Sci -- (diss) "Effect of
bacterial fertilizers ~~in~~ in lixiviated chernozems
w/on the yield of corn." Voronezh, 1958, 17 pp
(Min of Agr USSR. Voronezh Agr Inst) 150 copies
(KL, 29-58, 135)

- 92 -

MAZEPIN, K.G., kand. sel'skokhoz. nauk

Manure-soil composts in Chernozem soils. Zerkledenie 26 no.2:
64-66 F '64. (MIRA 17:6.)

1. Vserossiyskiy nauchno-issledovatel'skiy institut sakharnoy
svekly i sakhara.

MAZEPOVA, G. F.

Copepoda - Baykal, Lake

Orthocyclops bergianus sp. nova, an interesting new representative of Lake Baykal fauna.
Dokl. AN SSSR 86, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified

MAZEPOVA, G.F.

New form of *Encyclops serrulatus* (Fisch.) (Copepoda, Cyclopoida)
from Lake Baikal. Trudy Zool. inst. 18:106-111 '55. (MIRA 9:2)
(Baikal, Lake--Copepoda)

MAZEPOVA, G.F.

Morphology of the metamorphic stages in *Cyclops kolensis* from
Lake Baikal. *Izv.Sib.otd.AN SSSR* no.6:103-115 '60. (MIRA 13:9)

1. Baykal'skaya limnologicheskaya stantsiya Vostochno-Sibirskogo
filiala Sibirskogo otdeleniya AN SSSR.
(Baikal, lake--Copepoda)

MAZEPOVA, G.F.

Morphology of Cyclops kolensis Lill. from different habitats. Zool.
zhur. 40 no.10:1465-1469 0 '61. (MIRA 14:9)

1. Baikal Lymnological Station, Siberian Branch of the U.S.S.R.
Academy of Sciences, settlement of Listvenichnoye, Irkutsk region.
(Copepoda)

MAZEPOVA, G.F.

Benthic cyclops of southern Lake Baikal. Trudy Lin. inst. 2
pt. 1:172-195 '62. (MIRA 16:8)

MAZEPOVA, G.F.

Biology of the pelagic crustacean *Cyclops kolensis* Lill.
in Lake Baikal. Trudy VISKHOMa no. 34:49-134 '62.
(MIRA 16:11)

VOTINTSEV, Konstantin Konstantinovich; POPOVSKAYA, Galina Ivanovna;
MAZEPOVA, Galina Fedorovna; GALAZIY, G.I., otv. red.;
REZNICHENKO, O.G., red. izd-va; POLYAKOVA, T.V., tekhn. red.

[Physicochemical regime and plankton life of the Selenga region in Lake Baikal.] Fiziko-khimicheskii rezhim i zhizn' planktona Selenginskogo raiona ozera Baikal. Moskva, Izd-vo Akad. nauk SSSR. 1963. 320 p. (Akademiia nauk SSSR. Sibirskoe otdelenie. Limnologicheskii institut. Trudy, vol. 97)

1 10/07-63 BDS
ACCESSION NR: AP3001124

S/0108/63/018/006/0015/0025

45

AUTHOR: Manepova, O. I.; Fal'dshteyn, A. L.; Yavich, L. R. Members of the Society
(see Association)

TITLE: Engineering calculation of SHF band-pass filters

SOURCE: Radiotekhnika, v. 18, no. 6, 1963, 15-25

TOPIC TAGS: SHF band-pass filter

ABSTRACT: The method of SHF filter calculation is based on an equivalent replacing of the lumped-parameter systems (low-pass filters and ladder-type band-pass filters) with the filters formed by inhomogeneities in waveguides. The article offers: (1) a systematic procedure for calculating SHF filters with quarter-wave couplings; (2) tabulated typical calculations. Functions of effective attenuation for both the Tchebycheff and the maximum-flat-frequency response filters are evaluated. Cavity resonators are represented by waveguide stubs terminated with three inductive posts on each end. The design tables were compiled by means of an electronic computer. Programming was performed by Engineer A. V. Ivakina." Orig. art. has: 9 formulas, 11 figures, and 7 tables.

Card 1/2

L 10407-63

ACCESSION NR: AP3001124

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im
A. S. Popova (Scientific and Technical Society of Radio Engineering and Electro-
communications)

SUBMITTED: 07 Aug 62

DATE ACQD: 01 Jul 63

ENCL: 00

SUB CODE: CO,SD

NO REF SOV: 002

OTHER: 006

ja/12
Card 2/2

SAMPLAVSKAYA, K.K.; SELIVANVA, N.M.; MAZEPOVA, V.I.

Thermal stability of iron selenate. *Izv. vys. ucheb. zav.; khim. i khim. tekh.* 7 no.4:540-543 '64.

(MIRA 17:12)

1. Kafedra obshchey i neorganicheskoy khimii Moskovskogo khimiko-tekhnologicheskogo instituta im. D.I. Mendeleyeva.

I 37729-66 FWT(m) IJP(e) SOURCE CODE: UR/0089/66/020/004/0340/0340
*Acc. No. RP0027860

AUTHOR: Mazepus, V. V.; Chirikov, B. V.

64
B

ORG: none

TITLE: Coherent instability of a beam in a chamber with non-conducting walls

SOURCE: Atomnaya energiya, v. 20, no. 4, 1966, 340

TOPIC TAGS: particle accelerator, particle scatter, magnetic field, test chamber, kinetic equation, betatron beam, linear approximation

ABSTRACT: A study is made of the so-called coherent instability in an accelerator related to coherent scattering of particles in the magnetic field of the currents induced by the beam in the walls of the chamber. Instability arises due to the losses in the walls, which cause a shift in the phase of the induced currents with respect to the oscillation of the beam. The test chamber has two rather thick parallel walls made of laminated iron (magnet poles). The space between the walls is $2b$. The properties of such a wall are characterized by the effective constants

$$\mu = \frac{\delta + \mu_0 \Delta_0}{\delta + d} + i \frac{\mu_0 \Delta_0}{\delta + d}; \quad \epsilon = \frac{\delta + d}{\delta} \quad (1)$$

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UDC: 621.384.60
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L 37729-66

ACC NR: AP6027660

Here $\Delta_0 = c (2\pi\omega\sigma\mu_0)^{-1/2}$ is the thickness of the skin layer of the iron; μ_0 , σ are the permeability and conductance respectively of the iron; d is the thickness of the laminae; and δ is the distance between them.

Instability was investigated with the aid of a simplified kinetic equation; the field of the beam was determined by the reflected current method.

Neglecting Landau damping, the instability increment is equal to

$$\begin{aligned} \text{Im } \omega &= 2\Omega_0 \frac{\varphi}{\sqrt{1+\varphi^2}} |\mu|^{\pm 1} \ln |\mu|^{\pm 1}; \\ \Omega_0 &= \frac{e^2 N_1 \beta^2}{2m\gamma\omega_0 b^2}; \quad \varphi = \frac{\text{Im } \mu}{\text{Re } \mu}, \end{aligned} \quad (2)$$

where Ω_0 is the frequency shift of betatron oscillations (ω_0) due to reflected currents; N_1 is the linear density of the beam; $v = \beta c$ is particle velocity; $\gamma = (1 - \beta^2)^{-1/2}$; the superscripts correspond to $|\mu| \ll 1$, the subscripts to $|\mu| \gg 1$. The thickness of the wall.

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I. 37729-66

ACC NR: AP6027660

$D \gg b$; in the opposite case the following evaluation is valid:

$$Im\omega \sim \Omega_{sp} \left(|\mu| \frac{D}{b} \right)^{\pm 1} \quad (3)$$

The necessary condition for removing the instability with the aid of Landau damping has the form

$$\Delta(ku - \omega_0) \geq \Omega_n \times \begin{cases} 1 - \left(\frac{\gamma a}{b}\right)^2, & \mu \geq 1; \\ 1 - \left(\frac{a}{b}\right)^2, & |\mu| \leq 1; \end{cases} \quad (4)$$

$$\Omega_n = \frac{e^2 N_1}{\gamma^3 m \omega_0 a^2}.$$

Here a is the beam radius; Δ is the scattering with respect to velocities (Δv) or due to nonlinearity ($\Delta \omega_0$); ω , k are the frequency and wave vector of the Fourier component of beam perturbation; and Ω_n is the shift of frequency ω_0 due to the space charge of the beam.

Note that when $\mu \gtrsim 1$, stabilization becomes much easier for a given particle energy:

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ACC NR: AP6027660

The following inequality, as a basic condition, must be satisfied for the calculations to be applicable:

$$\frac{\omega b}{c} \sqrt{\mu_0} \ll 1. \quad (5)$$

Instability arises only in the direction of the magnetic field. All of the calculations were carried out by a linear approximation. Orig. art. has: 5 formulas. [JPRS: 36,456]

SUB CODE: 20, 12 / SUBM DATE: 16Oct65

Card 4/4 pb

MAZEPY, N.

MAZEPY, N.

Agricultural Machinery

Using a steam engine for mechanizing
labor-consuming jobs in stock raising.
Kolkh. proizvod. 12 no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

MAZETS, T. F.

Investigation of the electrical conductivity of vitreous semiconductors of the type As_2Te_3 . A. I. Gubanov, T. F. Mazets (10 minutes).

Study of semiconducting glasses by the electron paramagnetic resonance method. G. A. Karapetyan, V. A. Tsekhomskiy, D. M. Yudin.

Semiconducting silicate glasses based on titanium oxide. Ya. A. Kreznetsov, V. A. Tsekhomskiy. (Presented by V. A. Tsekhomskiy-- 15 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

L 6803-65 ENT(l)/EWG(k)/EWT(m)/T/EWP(q)/EWP(b) Pz-6/Pq-4 IJP(c)/ASD(m)-3/
AS(mp)-2/ASR(a)-5/ESD(t)/RAEM(t) RDW/JD/JW/AT/WH 76
ACCESSION NR: AP4044633 S/0048/64/02B/005/1276/1276

AUTHOR: Gubanov, A.I.; Mazets, T.F.

TITLE: Investigation of the electric conductivity of vitreous semiconductors of the
As₂Te₃ type Report, Third All-Union Conference on Semiconductor Compounds held in
Kishinev 16-21 Sept 1963

Kishinev 16-21 Sept 1963

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.8, 1064, 1276-1278

TOPIC TAGS: semiconductor conductivity, photoconductor, activation energy, arsenic compound, tellurium compound, selenium compound, arsenic telluride

ABSTRACT: The effect of light on the temperature dependence of the resistivity of semiconducting vitreous As_2Te_3 and As_2SeTe_2 was investigated. Samples that had never been illuminated exhibited no extrinsic conductivity at low temperatures, the activation energy being independent of temperature and equal to 0.8 eV for As_2Te_3 and 1 eV for As_2SeTe_2 . When As_2Te_3 was illuminated at 152°K its resistivity decreased to 10% of the initial dark value and returned to only 10% of the initial value when

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L 6807-65
ACCESSION NR: AP4044633

As₂Se₃ behaved similarly, the activation energy of the previously illuminated material being 0.5 eV below 220°K. The low temperature activation energy of As₂Te₃ was determined from the thermally stimulated current, both by the method given by R.H. Bube and by the method of J. T. Burks, E. J. Burks and J. H. Van Turnhout.

the vitreous material. The method of Boyko et al gave an activation energy of 0.35 eV, which is close to the value 0.4 eV obtained from the temperature dependence of the resistivity. The above behavior is discussed briefly in terms of a theory previously developed by one of the authors (A. I. Gubanov, Fiz. tverdogo tela 3, 2336, 1961; 4, 2873, 1962). According to this theory, the fluctuations of short-range order characteristic of amorphous materials give rise to local energy levels which, when they are occupied by carriers produced by illumination, account for the observed impurity-type conductivity. Orig.art.has: 2 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: SS,EM

RE REF SOW: OCA

OTHER: 002

2/2

S/053/61/073/001/004/004
B006/B056

AUTHORS: Sliv, L., Mazets, Ye. P.

TITLE: Lev Il'ich Rusinov (Deceased)

PERIODICAL: Uspekhi fizicheskikh nauk, 1961, Vol. 73, No. 1, pp. 183-186

TEXT: The present article is an obituary note; L. I. Rusinov died on May 18, 1960 in his 54th year after a serious illness. Rusinov made a reputation in nuclear physics. He was born at Minsk on April 21, 1907, attended the fiziko-mekhanicheskiy fakul'tet Leningradskogo politekhnicheskogo instituta (Physical and Technological Department of the Leningrad Polytechnic Institute) after having first attended the Technical High School at Simferopol; he then worked at the Leningradskiy fiziko-tekhni-kiy institut (Leningrad Institute of Physics and Technology), at the laboratory of I. V. Kurchatov, where he carried out some work under the supervision of Kurchatov. In 1934 he defended his candidate's dissertation. In later years he occupied himself with nuclear physics and published a paper together with I. V. and B. V. Kurchatov and L. S. Mysovskiy on the radioactivity of bromine in 1935. In the course of the following years

Card 1/2

Lev Il'ich Rusinov (Deceased)

S/053/61/073/001/004/004
B006/B056

he studied the radiation of isomeric nuclei, calculating internal conversion coefficients etc. He worked together with A. A. Yuzefovich, and later in Khar'kov with A. I. Leypunskiy and G. N. Flerov, and studied the absorption of thermal neutrons, uranium fission etc. In 1944 he defended his dissertation (isomeric atomic nuclei) and obtained the degree of Doctor of Physical and Mathematical Sciences. In the course of the following time he worked at L'vov together with A. S. Karamyan on methods of isomer separation and later, together with V. S. Gvozdev, on K-forbidden isomeric transitions. In recent times, he supervised the erection of the reactor of FTI AS SSSR (Institute of Physics and Technology of the AS USSR), and developed a research program. A list of his work is given at the end of the obituary. There are 48 references: 47 Soviet and 1 French.

Card 2/2

MAZETS, Ye.P.; SERGEYENKOV, Yu.V.

Prismatic β -spectrometer with automatic control. Izv. AN SSSR.
Ser. fiz. 26 no.2:248-251 F '62. (MIRA 15:2)

1. Fiziko-tehnicheskiy institut im. A.F.Ioffe AN SSSR.
(Beta-ray spectrometer)

34174

S/048/62/026/002/015/032
B106/B108

24.6800
AUTHORS: Mazets, Ye. P., and Sergeyenkov, Yu. V.
TITLE: Automatic prism β -spectrometer
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya.
v. 26, no. 2, 1962, 248-251

TEXT: The block diagram of a new β -spectrometer is shown in Fig. 1. The highly uniform magnetic field with constant configuration at various magnetic field strengths was obtained by using a prism of an alloy with high magnetic permeability ($\sim 30,000$) and low coercive force. The prism M is an electromagnet of 379MM (E79NM) permalloy with rectangular plane pole pieces of the dimensions 30-80 cm. The residual field of the prism in the air gap does not exceed 0.06 oe. The focal lengths of the magnetic lenses L_1 and L_2 of the spectrometer are 100 cm. The angle α is 60° .

The linear dispersion of the spectrometer is 350 cm. The magnetic field of the Earth is compensated with an accuracy of up to $5 \cdot 10^{-3}$ oe by the field of a system of thin rectangular current conducting turns. The source N of electrons and the electron detector D are separated by vacuum
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Automatic prism β -spectrometer34174
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locks. The magnetic lenses are fed from a d.c. stabilizer pile consisting of a rectifier (2 kv), a $\Gamma Y-80$ (GU-80) control tube, a calibration resistor R_3 , a battery for reference voltage U_{ref} , and a d.c. amplifier ΔP . The motor A_b keeps the potentiometer drum rotating. Current in the lenses is stabilized for 1 hr with an accuracy of 0.002% in the range of 20-1100 ma. The magnetic field of the prism is stabilized by a compensation method. The turns of the electromagnet are supplied with d.c. from a rectifier (1.5 kv) via a control tube $\Gamma Y-13$ (GU-13). A solenoid C is mounted in the air gap of the electromagnet, which produces a reference magnetic field opposed to the main field of the prism. Inside the solenoid is a magnetic modulating pickup ΔH for the magnetic field strength. M is a magnetometer. Thus compensation of the reference field by the field of the magnet with an accuracy up to $1 \cdot 10^{-4}$ oe is achieved. The spectra are measured automatically in the β -spectrometer. CPV is a system for the automatic control of the device, which permits continuous measurement of the spectrum during a time Δt over a given interval ΔH . $PC-10000$ (PS-10000) is a standard transmission circuit recording automatically the number of the pulses. $\Delta P-09$ (EPP-09) is an electronic potentiometer on the recording strip of which the pulses accumulated in

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Automatic prism β -spectrometer

the transmission circuit PS-10000 are recorded. Each number between 0 and 9999 is written down in the form of 4 lines the height of which is proportional to the number of units of the respective discharge. This β -spectrometer permits relative measurement of the energy of the conversion electrons with an error less than 0.05%. The authors thank V. M. Kel'man, (V. M. Kel'man, B. P. Peregud, V. I. Skopina, Tezisy X Yezhegodnogo soveshchaniya po yadernoy spektroskopii. Izd. AN SSSR, M.-L., 1960) for his interest and discussions. There are 4 figures and 4 references: 3 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: Lyddane R. H., Ruark A. E., Rev. Scient. Instrum., 10, 253 (1939).

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR) ✓

Fig. 1. Block diagram of the β -spectrometer.

Card 3/1 3

MAZETS, E. P.
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USSR/ Physics - Isomeric nuclei

Card 1/1 Pub. 22 - 15/51

Authors : Mazets, E. P., and Rusinov, L. I.

Title : The life expectancy of isomeric nuclei

Periodical : Dok. AN SSSR 101/2, 253-256, Mar 11, 1955

Abstract : The comparison of experimental data and theoretical computations concerning the life of isomeric nuclei is presented in the form graphs. The theoretical computations were performed at various assumptions concerning the structure of the atomic nucleus. Six references; 3 English, 1 German, 1 Danish and 1 USSR (1947-1954). Graphs.

Institution : Academy of Sciences of the USSR, Physics Technical Institute, Leningrad

Presented by : Academician D. V. Skobel'tsin, January 3, 1955

KOLOMIYETS, B. T.; MAMONTOVA, T. N.; LEBEDEV, E. A.; MAZERS, T. F.; STEPANOV, G. I.;
LASHKAREV, V. Ye.; SALKOV, E. A.; SHEYKMAN, M. K.

"Fast recombination processes in single crystals of CdS and CdSe."

report submitted for Intl Conf on Physics of Semiconductors, Paris, 19-24
Jul 64.

MAZEY, A.N.

Treating cracked nipples with a novocaine block and a synthomycin emulsion with anesthesin. Sov.med. 22 no.4:114-117 Ap '58 (MIRA 11:7)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. S.D. Astrinskiy) Severo-osetinskogo meditsinskogo instituta (dir. dots. S.N. Polikarpov).

(BREAST, dis.

cracked nipples, ther., procaine block & chloramphenicol emulsion with ethyl aminobenzoate (Rus))

(ANESTHESIA, REGIONAL, in various dis.

procaine block in cracked nipples, with chloramphenicol, ethyl aminobenzoate emulsion (Rus))

(CHLORAMPHENICOL, ther. use

chloramphenicol-ethylaminobenzoate emulsion with procaine bloc in ther. of cracked nipples (Rus))

(AMINO BENZOATES, ther. use

ethylaminobenzoate-chloramphenicol emulsion with procaine bloc in ther. of cracked nipples (Rus))

ABGAROV, V.I.; MAZEY, A.M.

Hysterosalpingography as a diagnostic and therapeutic method in
tubal sterility. Azerb.med.zhur. 40 no.1:42-46 Ja '63. (MIRA 116:3)

1. Iz kafedry rentgenologii i meditsinskoy radiologii (zav. -
dotsent V.I. Abgarov) Azerbaydzhanskogo meditsinskogo instituta
imeni N. Narimanova (rektor - zasluzhennyy deyatel' nauki, prof.
B.A. Eyvazov) i ginekologicheskogo otdeleniya (zav. - A.M. Mazez)
bol'nitsy imeni Shaamyana (glavnyy vrach - zasluzhennyy vrach
A²SSR Sh.I. Kasumov).

(UTERUS—RADIOGRAPHY) (STERILITY)
(FALLOPIAN TUBES—RADIOGRAPHY)

VISHNEV, I. P.; YELUCHIN, N. K.; MAZEYEV, B. B.

"Heat transfer to boiling liquids in pipes under vibrating conditions."

paper submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 1964.

All-Union Sci&Res Inst for Oxygen Apparatus, Moscow.

MAZEYEV, V.M.; KARACHEV, A.N.; SOKOLOV, L.S.

Useful hints. Fiz. v shkole/20 no.2:78 Mr-Apr '60. (MIRA 14:5)

1. g. Nolinsk, Kirovskoy oblasti, 1-ya shkola (for Mazeyev).
 2. g. Yoshkar-Ola, 10-ya shkola (for Karachev).
 3. Budogoshchskaya srednyaya shkola Leningradskoy oblasti (for Sokolov).
- (Physics—Study and teaching)

MAZEYEV, V.M.

Utilizing radio broadcasting for educational and training purposes. Fiz. v shkole 21 no.1:80-81 Ja-F '61. (MIRA 14:9)

1. 1-ya srednyaya shkola, g. Noginsk.
(Radio in education)

MAZEYEV, V.M.

Comprehensive excursion to a repair and supply station with
tenth grade students. Fiz.v shkole 22 no.6:78-79 N-D '62.
(MIRA 16:2)

1. 1-ya srednyaya shkola, g. Nolinsh.
(Repair and supply stations) (School excursions)

MALETSKI, Veslav [Malecki, Wieslaw], inzh.; PEKHOTA, Iosif [Piechota, Jozef], inzh.; MAZGAISKI, Ezhi [Mazgajski, Jerzy], inzh.

Prospective hydromeliorative works in Poland for the period 1960-1980. Khidrotekh i melior 8 no. 10:291-293, 296 '63.

Mazgaj, W.

4157

061,832.12

Mazgaj W; Kwicien J. Treatment of Concentrated Kola-Apatite in a Wet Process with Nitric Acid.

"Przerob apatytu „Kola-koncentrat” na drodze mokrej za pomoca kwasu azotowego". Przemysl Chemiczny, No. 8, 1953, pp. 449-454, 8 figs., 2 tabs.

Description of a study carried out at the Institute of Chemical Synthesis in Tarnow for preparing precipitated phosphate fertilizer on a pilot plant and on an industrial scale. The technological process is here characterized, and the material balance and the calculation of results given, together with a discussion of economic aspects of the process. Mention is made of the method of converting waste sodium fluoro-silicate into sodium fluoride and of the possibility of utilizing rare earths present in apatite.

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MAZGAJ, W.

Poland/Chemical Technology. Chemical Products and Their Application -- Industrial organic synthesis, I-14

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5668

Author: Mazgaj, W., Sarnowski, M., Zygadlo, J.

Institution: None

Title: Preparation of Hydrogen Cyanide from Methane, Ammonia and Air

Original Publication: Przem. chem., 1955, 11, No 8, 462-464

Abstract: Preliminary data are presented concerning the initiated laboratory experiments on an orientative determination of the conditions of a synthesis of HCN from CH_4 , NH_3 and air, over a Pt catalyst with a carrier. It has been ascertained that this method is very economical in comparison with the syntheses from formamide or calcium cyanamide. The synthesis can be conducted in a simple, fully automatic and efficient apparatus, by a continuous operation of the process over a period of many months. Possibility of repeated regeneration of the catalyst has been ascertained. Diagram of the unit is included.

Card 1/1

MAZGAJ, Witold; BARAN, Kazimierz; BIELECKI, Wacław; LUC, Edward

Studies on obtaining magnesium oxide from serpentinite coming
from Upper Silesian deposits. Przem chem 41 no.5:257-259 My '62.

1. Instytut Nawozow Sztucznych, Tarnow.

MAZGAJ, Witold, dr.; MILIANOWICZ, Irena

Obtaining rare earth metallic oxides and chlorides from Kola apatite. Magy kem lap 16 no.11:503-506 N '61.

1. Mutragyakutato Intezet, Tarnow.

MAZGAJ, Witold; BARAN, Kazimierz; LUC, Edward; KWIECIEN, Jozef; BIELECKI, Wacław

Study on the preparation of the fertilizer dicalcium phosphate without applying the defluorination of phosphoric acid. Przem chem 41 no.3:145-147 Mr '62.

1. Instytut Nawozow Sztucznych, Tarnow

MAZGAJ, Witold; BARAN, Kazimierz; LUC, Edward

Analytical problem of determining P_2O_5 in fertilizer disodium phosphorane. Przem chem 43 no.10:543-545 0 '62.

1. Instytut Nawozow Sztucznych, Tarnow.

MAZGAJ, Witold; BARAN, Kazimierz; LUC, Edward

Influence of fluoride upon the solubility of dicalcium phosphate fertilizer. Przem chem 41 no.10:561-562 0 '62.

1. Instytut Nawozow Sztucznych, Tarnow.

MAZGAJ, Witold; BARAN, Kazimierz; KWIECIEN, Jozef; BIELECKI, Wacław

Obtaining dicalcium phosphate for animal feeding from Kola apatite
and nitric acid. Pt.1. Przem chem 41 no.11:639-643 N '62.

1. Instytut Nawozow Sztucznych, Tarnow.

MAZGAJ, Witold; BIELECKI, Wacław; BARAN, Kazimierz; KWIECIEN, Józef

Obtaining of dicalcium phosphate from Kola apatite and nitric acid for animal feeding purposes. Przem chem 41 no.12:678-680 D '62.

POLAND

MAZGAJ, Witold, SAMCOWSKI, Maciej, and BLANCOWSKI, Bogdan, of the Institute of Synthetic Fertilizers (Instytut Nawozow Sztucznych, Tarnow), in Tarnow.

" Changes in Pressure of Water Vapor in the System $MgSO_4-H_2O-CO(NH_2)_2$ at a Temperature of 25°C ." A Discussion.

Warsaw, Roczniki Chemii, Vol 37, No 2, 1962, pp 1089-1092.

Abstract: The authors discuss the article of Poczopka, Basinski, Polanski and Pankowska (Roczniki Chemii, 36,947, 1962). They disapprove of some of the statements made in particular concerning the changes in the pressure of water vapor over the investigated solutions. Therefore the authors of this brief note draw the conclusion that the method of measurement applied by the quoted authors is not suitable for the study of these problems. Nine references, including 8 Polish, and 1 Western.

1/1

MAZGAJ, Witold; SARNOWSKI, Maciej; BARANOWSKI, Bogdan

Water vapor pressure course in the system $MgSO_4 \cdot H_2O - CO(NH_2)_2$
under a temperature of $25^\circ C$. Roczniki chemii 37 no. 9: 1089-1092. '63.

1. Instytut Nawozow Sztucznych, Tarnow.